

Remarks

Reconsideration and allowance of the pending claims based on the following remarks are respectfully requested.

In the pending Office Action, the Examiner rejected claims 49 and 62, under 35 U.S.C. §112, ¶1, as allegedly failing to comply with the written description; rejected claims 49, 50, 58, and 62, under 35 U.S.C. §103(a), as allegedly being unpatentable over Yuyuma '408 (U.S. Patent No. 5,825,408) in view of Berman '330 (U.S. Patent No. 4, 190,330); and rejected claim 56, under 35 U.S.C. §103(a), as allegedly being unpatentable over Yuyuma '408 in view of Berman '330 and Hamblen '289 (U.S. Patent No. 5,745,289).

By this Amendment, claims 49 and 62 have been amended for form and clarity and new claims 73-75 have been added. No new matter has been added. Accordingly, after entry of this Amendment, claims 49, 50, 56-58, 62, and 73-75 are currently presented for examination of which claims 49 and 62 are independent.

Applicants submit that, by virtue of the claim changes to independent claims 49 and 62, the §112, ¶1 rejections have been obviated. Accordingly, the immediate withdrawal of the 112, ¶1 rejection is respectfully requested.

Applicants traverse the §103(a) rejections for the following reasons.

I. Rejections Under §103(a).

As noted above, independent claims 49 and 62 positively recite, *inter alia*, ***an optical system with an optical element having a variable focal length characteristic***, that uses no polarizing plate, and forms an image whose brightness is independent of a polarized direction of incident light, ***the optical system comprising no lens element that moves along an optical axis . . . a member which makes variable a focal point of said optical element having the variable focal length characteristic is composed of a single layer.***

These features are amply supported by the embodiments disclosed in the written description. By way of illustration, disclosed embodiments provide a configuration in which

a member which makes variable a focal point of the optical element having the variable focal length characteristic is composed only of a single layer. That is, the single layer changes a focal point of the optical element having the variable focal length characteristic, so that the optical element having the variable focal length characteristic has a single focal point, a single principal point, and a single focal length. With this configuration, the optical apparatus allows no deviation between focal lengths and no blurring of a marginal portion of an image, thereby effectively forming a favorable image.

With this said, Applicants submit that none of the asserted references suggest each and every element of claim 49 including, for example, the features noted above. In particular, the Yuyuma '408 reference discloses a portable television receiver 301 comprising lens 331, CCD 332, LCD 334, video memory 343, and microphone section 307. (See, Yuyuma '408: Fig. 18; and related descriptions). Yuyuma '408 specifically discloses that zoom key 119 is used to move the lens along the optical axis. (See, Yuyuma '408: col. 10, lines 33-37).

However, there is nothing in Yuyuma '408 that remotely suggests that the optical element *itself* has a variable focal length characteristic, as claimed. That is, the focal adjustment of the Yuyuma '408 lens can *only* be achieved by mechanically moving the lens along the optical axis.

Along these lines, Applicants remind that Examiner that, in accordance with MPEP Guidelines, "[i]f the proposed modification or combination of the prior art would **change the principle of operation of the prior art invention being modified**, then the teachings of the references are *not sufficient to render the claims prima facie obvious*." (See, MPEP 2143.01(VI)) (*emphasis added*).

With this said, the claims required that *the optical system compris[es] no lens element that moves along an optical axis*. So, to combine Yuyuma '408, which specifically teaches to mechanically moving the lens along the optical axis, with Berman '330, which specifically teaches an optical system that changes focus by varying an electric field between electrodes – and *not* by mechanically moving the lens – clearly changes the principle of

operation of Yuyuma '408. As such, the combination of Yuyuma '408 and Berman '330 is clearly improper and can not sustained.

With regard to Berman '330, the reference discloses a lens system which consists of two variable focus crystal lenses and is configured as an element having a variable focus adjusting effect. (See, Berman '330: Fig. 2). Disposed in the lenses are two nematic liquid crystal layers: a layer between the layer 25 and the layer 28, and the other layer between the layer 26 and the layer 29. The layers 25 and 28 orient a director of the nematic liquid crystal between the layers 25 and 28 in the x direction. The two liquid crystal layers are therefore capable of changing refractive indices for polarized rays in the x and y directions corresponding to the liquid crystal layers respectively. Accordingly, the transparent substrates are configured to produce the variable focal adjusting effect independently of a polarized direction of incident light by changing refractive indices for the polarized rays corresponding to the two layers respectively with the nematic liquid crystal layer disposed between the layers 25 and 28 and the nematic liquid crystal layer disposed between the layers 26 and 29.

However, artisans of ordinary skill will appreciate that, in the case where a focal length is adjusted with two liquid crystal layers, as taught by Berman '330, the liquid crystal layers will have principal points and focal points which are different from each other, even if the liquid crystal layers have the same focal length. In other words, even if focal points on the optical axis of the liquid crystal layers are coincident with each other, the focal points of the liquid crystals deviate from each other at the marginal portions of an image, thereby blurring the marginal portion of the image.

Applicants submit that the remaining reference, Hamblen '289, fails to cure the deficiencies of the Yuyuma '408 and Berman '330 combination. Thus, for at least the aforementioned reason, Applicants submit that the combination of asserted references clearly fails to suggest ***an optical system with an optical element having a variable focal length characteristic***, that uses no polarizing plate, and forms an image whose brightness is independent of a polarized direction of incident light, ***the optical system comprising no lens element that moves along an optical axis . . . a member which makes variable a focal***

point of said optical element having the variable focal length characteristic is composed of a single layer, as required by claims 49 and 62.

As such, claims 49 and 62 are clearly patentable and claims 50, 56-58, and 73-75, which depend on claims 49 and/or 62 are also patentable at least by virtue of dependency as well as for their additional recitations.

Accordingly, the immediate withdrawal of the §103(a) rejections is respectfully requested.

Conclusion

Having addressed each of the foregoing rejections, it is respectfully submitted that a full and complete response has been made to the outstanding Office Action and, as such, the application is in condition for allowance. Notice to that effect is respectfully requested.

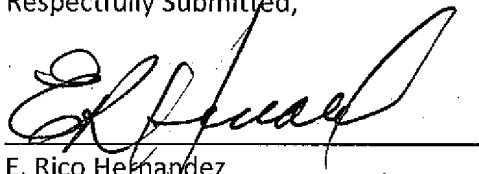
If the Examiner believes, for any reason, that personal communication will expedite prosecution of this application, the Examiner is invited to telephone the undersigned at the number provided.

Please charge any fees associated with the submission of this paper to Deposit Account Number 033975. The Commissioner for Patents is also authorized to credit any over payments to the above-referenced Deposit Account.

Date: December 23, 2009

Respectfully Submitted,

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